

Virginia Regulatory Town Hall

Notice of Intended Regulatory Action Agency Background Document

Agency Name:	State Air Pollution Control Board
Regulation Title:	Regulation for the Control of Motor Vehicle Emissions in Northern Virginia
Primary Action:	9 VAC 5 Chapter 91 (9 VAC 5-91-10 et seq.)
Secondary Action(s):	None
Action Title:	Remote Sensing (Rev. MJ)
Date:	

This information is required prior to the submission to the Registrar of Regulations of a Notice of Intended Regulatory Action (NOIRA) pursuant to the Administrative Process Act § 9-6.14:7.1 (B). Please refer to Executive Order Twenty-Five (98) for more information.

Purpose *

Please describe the subject matter and intent of the planned regulation.

The purpose of the proposed action is to amend the current regulation which conforms to federal requirements for on-road testing by expanding the regulatory provisions to meet the state law. The new regulatory amendments would (i) revise the existing provisions affecting the on-road testing (remote sensing) of emissions from motor vehicles located in or primarily operated in Northern Virginia (including out of area commuters) and the subsequent testing of those motor vehicles; and (ii) establish a program to subsidize repair costs of some vehicles identified by remote sensing.

Statutory Authority

Please identify the section number and provide a brief statement relating the content of the statutory authority to the specific regulation contemplated.

Section 46.2-1176-1187.3 of the Virginia Air Pollution Control Law (Title 46.2, Chapter 10 of the Code of Virginia) authorizes the State Air Pollution Control Board to promulgate regulations for the control of motor vehicle emissions and for emissions testing including remote sensing. Specifically, § 46.2-1178.1 authorizes the Board to establish by regulation on-road testing requirements. Section 46.2-1178.2 requires the Board to establish by

regulation a program to subsidize repairs of some vehicles identified by on-road testing pursuant to § 46.2-1178.1.

Need *

Please provide an explanation of the need for the contemplated regulation and potential consequences that may result in the absence of the regulation. Also set forth the specific reasons the agency has determined that the proposed regulatory action would be essential to protect the health, safety or welfare of citizens or would be essential for the efficient and economical performance of an important governmental function. Include a discussion of the problems the regulation's provisions are intended to solve.

The current regulation governing the motor vehicle emissions testing (I/M) program meets the applicable federal requirements for on-road testing but does not meet the state code requirements (see section on "legal requirements" below). In order to meet the requirements of the state code, the regulation needs to be amended to include a definitive requirement for random testing of motor vehicle emissions, procedures to notify owners of test results, and assessment of civil charges for noncompliance with emissions standards in the current regulation. The regulation also needs to be amended to establish standards, criteria, and procedures to implement a program to subsidize repairs of some vehicles identified by on-road testing as being non-compliant when the owner is financially unable to afford the repairs. Additional background information may be found below following this paragraph.

One of the primary goals of the federal Clean Air Act (Act) is the attainment and maintenance of the National Ambient Air Quality Standards (NAAQS). These standards, designed to protect public health and welfare, apply to six pollutants, of which ozone is the primary focus of this proposed action. Ozone is formed when volatile organic compounds (VOCs) and nitrogen oxides (NO_x) in the air react together in the presence of sunlight. VOCs are chemicals contained in gasoline, polishes, paints, varnishes, cleaning fluids, inks, and other household and industrial products. NO_x emissions are a by-product from the combustion of fuels and industrial processes.

The National Ambient Air Quality Standard for ozone is currently 0.12 parts per million (ppm) and was established by the U.S. Environmental Protection Agency (EPA) to protect the health of the general public with an adequate margin of safety. When concentrations of ozone in the ambient air exceed the federal standard the area is considered to be out of compliance and is classified as "nonattainment." Several counties and cities within the Northern Virginia area have been identified as ozone nonattainment areas according to provisions of the Act.

States are required to develop plans to ensure that areas will come into compliance with the federal health standard. Failure to develop adequate programs to meet the ozone air quality standard: (i) may result in the continued violations of the standard and subsequent negative affects on human health, (ii) may result in assumption of the program by EPA at which time the Commonwealth would lose authority over matters affecting its citizens, and

(iii) may result in the implementation of sanctions by EPA, such as more restrictive requirements on new major industrial facilities and loss of federal funds for highway construction. Furthermore, if a particular area fails to attain the federal standard by the legislatively mandated attainment date, EPA is required to reassign it to the next higher classification level (denoting a worse air quality problem), thus subjecting the area to more stringent control requirements.

Motor vehicle emissions inspection programs, known as inspection and maintenance (I/M) programs, are an integral part of the effort to reduce mobile source air pollution. Cars and trucks create about half of the ozone air pollution. Of all highway vehicles, passenger cars and light trucks emit most of the vehicle-related carbon monoxide and ozone-forming hydrocarbons. Tremendous progress has been made in reducing these pollutants; however, total vehicle emissions remain high. This is because the number of vehicle miles traveled on our highways has doubled in the last 20 years, offsetting much of the technological progress in vehicle emission control over the same two decades. Ongoing efforts to reduce emissions from individual vehicles will be necessary to achieve our air quality goals.

I/M programs achieve their objective by identifying vehicles that have high emissions as a result of one or more malfunctions and requiring them to be repaired. Minor malfunctions in the emissions control system can increase emissions significantly. The average car on the road can emit three to four times the carbon monoxide and hydrocarbons allowed by new car standards if emission control systems are malfunctioning. Unfortunately, rarely is it obvious which cars have malfunctions as the emissions themselves may not be noticeable and emission control malfunctions do not necessarily affect vehicle driveability.

I/M programs provide a way to check whether the emission control systems on a vehicle are working correctly. All new passenger cars and trucks sold in the United States today must meet stringent air pollution standards and those standards became more stringent in model year 1994 and again in 1998, but they can only retain this low-polluting profile if the emission controls and engine are functioning properly. An I/M program is designed to ensure that vehicles stay clean in actual use. This, in turn, can substantially reduce the amount of volatile organic compounds, carbon monoxide, and nitrogen oxides emitted to the ambient air, thereby reducing the formation of ozone, lowering ozone concentrations, and contributing toward attainment of the NAAQS.

The aspect of on-road testing, i.e. remote sensing, is needed as an addition to the existing enhanced emissions inspection program for several reasons.

- Remote sensing is a requirement of the Federal Clean Air Act amendments of 1990. The act requires that at least 0.5% of the vehicles receive "on-road" testing. RSD is the most cost effective way to achieve this.
- The State Implementation Plan for Northern Virginia already assumes that remote sensing will be used to identify high polluting vehicles and to require their verification, testing and, if needed, repair out-of-cycle (in addition to the existing 2-

year testing requirement). The Department of Environmental Quality is committed to fulfilling this SIP requirement.

- Remote sensing is an effective means of identifying vehicles that are subject to the enhanced emissions inspection program by virtue of being "primarily operated in" (but registered outside) the I/M area per the current I/M rule. Some of these vehicles may be improperly registered outside their actual residence in violation of Virginia law.
- Remote sensing is an effective means of identifying vehicles that are eligible for "clean screening" or exemption from their next schedule regular I/M test. Under certain limited conditions, this would relieve very clean vehicles from having to be tested at the next inspection cycle.

A remote sensing pilot study conducted in 2002 found that approximately twenty-eight percent of the vehicles observed in the I/M area were registered outside the I/M area, including nine percent from other Virginia jurisdictions. Emissions from these vehicles contribute to the air quality nonattainment status. High emitter vehicles from Virginia identified by remote sensing would be subject to verification testing and repairs if needed. Information on high emitter vehicles from other states would be shared with appropriate I/M administrators through agreements currently authorized by Virginia statute.

The study data are being analyzed to determine exactly how many high emitter vehicles would be expected and how much air quality benefit would be obtained from RSD. DEQ will consider this data in setting the standards and conditions.

Potential Issues *

Please supply a statement delineating any potential issues that may need to be addressed as the regulation is developed.

- Changes in the wording of some definitions. This is being done as a result of technical changes in the remote sensing program operation.
- Changes in some elements of the remote sensing testing applicability and program procedure and protocol as it pertains to gross polluters and clean car screening. This is being done as a result of technical changes in the remote sensing program and to conform to state requirements.
- Changes in the remote sensing test standards. This is being done as a result of technical changes in the remote sensing program and changes in equipment capability.
- Changes in some permitting and licensing procedures. This is being done as a result of technical changes in the remote sensing program.

- Addition of language to implement the mandate for economic assistance to subsidize repair costs of some vehicles identified as gross emitters via remote sensing. This is being done to conform to state requirements.
- Changes in some enforcement and compliance procedures. This is being done as a result of technical changes in program operation and to conform to state requirements.

Alternatives *

Please describe the process by which the agency has considered, or will consider, less burdensome and less intrusive alternatives for achieving the need. Also describe, to the extent known, the specific alternatives to the proposal that have been considered and will be considered to meet the need, and the reasoning by which the agency has rejected any of the alternatives considered.

Alternatives to the proposed regulation amendments are being considered by the Department. The Department has tentatively determined that the first alternative is appropriate, as it is the least burdensome and least intrusive alternative that fully meets the purpose of the regulatory action. The alternatives being considered by the Department, along with the reasoning by which the Department has rejected any of the alternatives being considered, are discussed below.

1. Amend the regulations to satisfy the provisions of the law and associated regulations and policies. This option is being selected because it meets the stated purpose of the regulatory action, develop a regulation revision which conforms to state law for the testing of emissions, including remote sensing, from motor vehicles located or primarily operated in Northern Virginia.
2. Make alternative regulatory changes to those required by the provisions of the law and associated regulations and policies. This option is not being selected because it does not provide for implementation of a motor vehicle emissions testing program that meets the provisions, or meets alternative provisions of the state code.
3. Take no action to amend the regulation and operate under the existing regulation. This option is not being selected because it does not meet the requirements of state law.

As provided in the public participation procedures of the State Air Pollution Control Board, the Department will include, in the subsequent Notice of Intended Regulatory Action, a description of the above alternatives and a request for comments (see section below on public participation) on other alternatives and the costs and benefits of the above alternatives or the other alternatives that the commenters may provide.

Public Participation *

Please indicate the nature of the comments the Department is soliciting pursuant to this notice and whether a public meeting is to be held to receive comments on this notice. If a public meeting is to be held, indicate where information on the public meeting (i.e. date, time, and place) may be found. Indicate whether it is the Department's intent to hold at least one public hearing on the proposed regulation after it is published in the Virginia Register.

The Department is soliciting comments on (i) the intended regulatory action, to include ideas to assist the Department in the development of the proposal, and (ii) the costs and benefits of the alternatives stated in this notice or other alternatives.

A public meeting will be held by the Department to receive comments on and to discuss the intended action. Information on the date, time, and place of the meeting is published in the Calendar of Events section of the Virginia Register. Unlike a public hearing, which is intended only to receive testimony, this meeting is being held to discuss and exchange ideas and information relative to regulation development.

After publication in the Virginia Register of Regulations, the Department will hold at least one public hearing to provide opportunity for public comment on any regulation amendments drafted pursuant to this notice.

Ad Hoc Advisory Group *

Please indicate the extent to which the participatory approach will be used in the development of the proposed regulation. Indicate whether the Department is will be using an ad hoc advisory group in the development of the proposal.

Subject to the stipulations noted below, the Department will form an ad hoc advisory group to assist in the development of the regulation. If you want to be on the group, notify the agency contact in writing by 4:30 p.m. the last day of the comment period and provide your name, address, phone number and the organization you represent (if any). Notification of the composition of the ad hoc advisory group will be sent to all applicants. If you want to be on the group, you are encouraged to attend the public meeting mentioned above. The primary function of the group is to develop recommended regulation amendments for Department consideration through the collaborative approach of regulatory negotiation and consensus. At its discretion, the Department may dispense with the use of an ad hoc advisory group if it receives less than five applications. Multi-applications from a single company, organization, group or other entity count as one for purposes of making the decision specified in the preceding sentence.

Legal Requirements

Please identify the state and/or federal source of the legal requirements that necessitate promulgation of the contemplated regulation. The discussion of these requirements should include a description of their scope and the extent to which the requirements are mandatory or discretionary. Full citations for the legal requirements and, if available, web site addresses for locating the text of the cited legal provisions should be provided.

Section 182(c)(3)(B)(i) of the Clean Air Act requires states to establish a program for periodic testing of motor vehicle emissions, including on-road emission testing. Section 51.351(b) requires the on-road testing of at least 0.5% of the subject vehicle population. Additional background information may be found below under "federal requirements".

Section 46.2-1178.1 of the Code of Virginia authorizes the Board to establish by regulation on-road testing requirements. Section 46.2-1178.2 requires the Board to establish by regulation a program to subsidize repairs of some vehicles identified by on-road testing pursuant to § 46.2-1178.1. Additional background information may be found below under "state requirements".

Federal Requirements

Federal Clean Air Act (CAA):

<http://www.epa.gov/ttn/oarpg/gener.html>

Code of Federal Regulations (CFR):

<http://www.access.gpo.gov/nara/cfr/cfr-retrieve.html>

Federal Register (FR):

http://www.gpo.gov/su_docs/aces/aces140.html

The 1990 Amendments to the Clean Air Act established a process for evaluating the air quality in each region and identifying and classifying each nonattainment area according to the severity of its air pollution problem. Nonattainment areas are classified as marginal, moderate, serious, severe and extreme. Marginal areas are subject to the least stringent requirements and each subsequent classification (or class) is subject to successively more stringent control measures. Areas in a higher classification of nonattainment must meet the mandates of the lower classifications plus the more stringent requirements of its own class.

Effective March 25, 2003, the ozone pollution problem in the Northern Virginia area was reclassified by the EPA from "serious" to "severe". The problem is a result of emissions from both industrial sources and motor vehicles. The Act requires that all areas classified as serious and above must implement an enhanced vehicle emissions inspection and maintenance program, commonly referred to as I/M.

Section 182(c)(3) of the Clean Air Act requires that the state submit revisions to the state implementation plan to "provide for an enhanced program to reduce hydrocarbon emissions and NO_x emissions from in-use motor vehicles..." The program "shall comply in all respects with guidance...by the Administrator..." The Act requires that enhanced I/M Programs be implemented within two years of enactment (11/16/90) of the Clean Air Act Amendments of 1990. The program implemented by the state must achieve a performance standard equal to:

(i) "...a program combining emission testing, including on-road emission testing, with inspection to detect tampering with emission control devices and misfueling for all light-duty vehicles and all light-duty trucks subject to standards under section 202; and

(ii) program administration features necessary to reasonably assure that adequate management resources, tools, and practices are in place to attain and maintain the performance standard."

The compliance method is to be established, per the Act, by EPA. The state program, per the Act, must include, at a minimum:

- Computerized emission analyzers, including on-road testing devices.
- No waivers for vehicles and parts covered by an emission control performance warranty.
- For non-warranty situations, waivers only after \$450 (in 1990 dollars) has been spent for emissions-related repairs.
- Enforcement through registration denial.
- Annual testing unless biennial testing, in combination with other features, will equal or exceed emissions reductions obtainable through annual inspections.
- Operation on a centralized basis unless the state demonstrates to the satisfaction of the Administrator that a decentralized program will be equally effective.

This law is implemented by EPA through 40 CFR Part 51, subpart S. The performance standard for the program is contained in § 51.351, "Enhanced I/M Performance Standard". It includes:

- Centralized testing.
- Annual testing.
- Testing of 1968 and later model year vehicles.
- Transient, mass emissions testing on 1986 and later model year vehicles, two-speed idle testing of 1981-1985 vehicles, and single-speed idle testing of pre-1981 vehicles.
- Testing of light duty vehicles and trucks.
- Emissions standards according to model year and weight class as enumerated in § 51.351(f)(7).
- Visual inspection of the catalyst and fuel inlet restrictor on all 1984 and later model year vehicles.

- Evaporative system integrity (pressure) test on 1983 and later vehicles and an evaporative system transient purge test on 1986 and later vehicles.
- Twenty percent emission test failure rate among pre-1981 model year vehicles.
- Three percent (3%) waiver rate.
- Ninety-six percent (96%) compliance rate.
- Remote sensing or on-road testing of at least 0.5% of the subject vehicle population.

Under the current rule, the state has considerable flexibility to design its own program and demonstrate that it is as effective as the EPA model program in reducing emissions.

State Requirements

Code of Virginia:

<http://leg1.state.va.us/000/cod/codec.htm>

Virginia Administrative Code (VAC):

<http://leg1.state.va.us/000/reg/toc.htm>

Section 46.2-1176 through Section 46.2-1187.3 of the Virginia Motor Vehicle Emissions Control Law (Title 46.2, Chapter 10, Article 22 of the Code of Virginia) requires a "test and repair enhanced emissions inspection program" for vehicles that have actual gross weights of 10,000 pounds or less and are registered in the Counties of Arlington, Fairfax, Loudoun, Prince William, and Stafford, and the and the Cities of Alexandria, Fairfax, Falls Church, Manassas, and Manassas Park. Key provisions of the legislation include:

- A biennial inspection;
- An inspection fee cap of \$28.00;
- A minimum repair cost of \$450.00 (in 1990 dollars) in order to qualify for a waiver, and requirement that repairs to qualify for a waiver be done by a certified repair technician;
- Motor vehicles being titled for the first time may be registered for up to two years without being subject to an emissions inspection;
- An exemption for any of the following vehicles: (i) vehicles powered by a clean special fuel as defined in § 58.1-2101, (ii) motorcycles, (iii) vehicles which, at the time of manufacture were not designed to meet emission standards set or approved by the federal government, (iv) any antique motor vehicle as defined in § 46.2-100 and licensed

pursuant to § 46.2-730, or (v) vehicles for which no testing standards have been adopted by the Board;

- The requirement for the inspection to apply to all vehicles registered and/or operated in the affected area including (i) vehicles owned by government entities, (ii) vehicles owned by military personnel residing in the affected areas, and (iii) vehicles owned by leasing or rental companies;
- The certification of motor vehicle emissions repair technicians and emissions repair facilities, including the suspension or revocation of such certification;
- In addition to biennial testing of all subject vehicles, the requirement for on-road testing of motor vehicles (model year 1968 and newer) and for follow-up testing of those vehicles which exceed emissions standards; and
- The requirement for the State Air Pollution Control Board to adopt regulations to implement the program including regulations for standards, criteria and procedures for a program to subsidize repairs of vehicles identified by remote sensing.

Family Impact Statement

Please provide a preliminary analysis of the potential impact of the proposed regulatory action on the institution of the family and family stability including to what extent the regulatory action will: 1) strengthen or erode the authority and rights of parents in the education, nurturing, and supervision of their children; 2) encourage or discourage economic self-sufficiency, self-pride, and the assumption of responsibility for oneself, one's spouse, and one's children and/or elderly parents; 3) strengthen or erode the marital commitment; 4) increase or decrease disposable family income.

It is not anticipated that these regulation amendments will have a direct impact on families. However, there will be positive indirect impacts in that the regulation amendments will ensure that the Commonwealth's air pollution control regulations will function as effectively as possible, thus contributing to reductions in fertility disorders, fetal mutation and deformity, chronic and acute illness, premature death, and property damage. It is recognized that some vehicles subject to remote sensing will be identified as gross polluters and will need repair. However, for those that meet the criteria, the program will also subsidize repair costs, thus minimizing the impact.